GOSSIP-BASED RELIABLE MULTICAST MESSAGE
RECOVERY SYSTEM AND METHOD

ABSTRACT OF THE DISCLOSURE

A group-based multicast messaging system implementing dedicated

5   logger member for logging all multicast messages sent in the
system, and a reliable recovery method for missing messages. The
reliable recovery method includes soliciting retransmissions of
fresh missing messages to other group members and soliciting of
retransmissions of stale missing messages to logger members of
the group. One of the loggers or other group members repairs the
missing message to thereby ensure reliable delivery of messages
in the multicast messaging system. The soliciting of
retransmissions makes use of *negative gossips* for fresh missing

messages in the system, with the system implementing a mechanism

15   for propagating the latest state information of members to enable
garbage collection of archived messages at logging servers in the
system. Further, employed is a selective hashing technique to
further reduce control traffic and a relaxed group membership
protocol for tracking multicast group membership.

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